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APPARATUS FOR ARRESTING HEMORRHAGE AFTER THE EXTRACTION OF TEETH.

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It is well known, from the published reports of cases, and from the experience of many surgeons as well as dentists, that alarming hemorrhage has occasionally followed the extraction of a tooth, even when so loose in its socket, as to require little force or dexterity for its removal. In the great proportion of such cases, the bleeding is the result of an hemorrhagic diathesis. In the same individuals, a slight scratch or an abrasion on any other part of the body might have evinced the morbid tendency; but the locality of the injured surface, with its heat and moisture, greatly favours the bleeding process. The situation, also, presents no inconsiderable obstacles to the arrest of the hemorrhage, and hence the difficulty which has been experienced in so many instances, and the fatal result in not a few.

The actual cautery, caustics, and styptics, such as the sulphates of alumina and zinc, the acetate of lead, the protonitrate of mercury, turpentine, kino, &c. have, together with the constitutional treatment usually employed in hemorrhagic cases, been on too many occasions of no avail; and it now seems to be the decided conviction of the profession, that the speediest and most efficacious mode of arresting an alveolar hemorrhage is by *direct pressure upon the bleeding point*.

In some cases, I have succeeded in accomplishing all that was desired, by the continued pressure of the finger on a dossil of lint placed in the socket; and in others, by a cork placed over the plug, and a bandage round the head tying up the jaws. But while the former mode cannot always be continued for such a length of time as is required, the latter is attended with many disadvantages; it is a practice not without danger; and has proved utterly inefficacious, in several melancholy instances.

Since the death of a young gentleman in 1842, whose case was read to this Society by the late Dr Hay, and afterwards published in the MONTHLY JOURNAL, (March 1842, p. 264,) my attention has been strongly and anxiously directed to this subject, with a view to devise an apparatus, by which continued, steady, yet gentle pressure might be applied to the point from which the bleeding proceeds; and the compresses which I am now permitted the favour of laying before your Society are the result. As yet they are unproved, but I trust, that



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when an opportunity occurs for testing them, they will be found, with slight alterations at most, to answer the purpose for which they are designed.

The compress for the lower jaw, from the nature of the parts engaged, is simple compared with the one for the upper jaw. It is, in fact, an artificial finger and thumb. In applying it, the first thing to be attended to, is a thorough cleaning out of the cavity of the alveolus from which the bleeding issues; it is then to be firmly filled with dry lint. The moveable cross bar being kept at the furthest extremity of the apparatus, the bolster or pad is brought to rest under the jaw, on that side of the mouth which is affected; and the branch is afterwards carried into the mouth, and the stopper or saddle made to bear directly on the plug of lint filling the alveolus. The cross bar is now moved towards the chin, and the screw at its extremity is turned to effect the necessary pressure, which should just be firm enough to maintain the steadiness of the apparatus.

The compress for the *upper jaw* is, of necessity, more complicated, and at first sight may appear somewhat formidable: it is, however, of very easy application. It may be divided into three parts—a shield or plate with straps, to be secured to the head;—a perpendicular bar, to be secured to the shield;—and a sliding transverse bar, bearing the stopper or saddle. The shield is to be placed on the side of the head, or over the forehead, as need be, or the side from which the bleeding proceeds, and made quite steady by the straps; but so as not to occasion painful pressure. The bleeding alveolus is now to be carefully cleaned out and plugged with lint, as recommended in the application of the compress for the lower jaw. The perpendicular bar is then to be slid through the groove or notch in the shield, and carried up, until its lowest extremity is brought in a line with the teeth of the superior maxilla; the cross sliding bar having been inserted in the mouth to a requisite length, so as to bear directly on the alveolar plug, the thumb screw attached to its extremity, and the one in the shield are then to be tightened, until a proper degree of pressure is obtained. I would recommend that the lowest screw should be kept at its greatest length, to allow increased pressure, if required; and in the case of either compress (should any point appear to be insufficiently closed,) a small piece of lint may be introduced, without shifting the apparatus; or, should any slackness occur in the absence of the surgeon, the patient himself, or a friend, may firm the screw a little more with advantage. If thought necessary, a strap may be passed round the face, across the upper lip, and attached to the lowest extremity of the perpendicular bar, so as to effect a degree of counter pressure, and give additional steadiness to the apparatus.

All must be aware, that the ordinary method of applying pressure to stop an alveolar hemorrhage, is to fill the socket of the tooth with lint, to place a cork over the plug, and then to tie up the jaws immediately with bandages. If the bandages are firm, from the length of time during which they must be retained, the patient experiences much

suffering and annoyance, for the constraint of the mouth and face frets him exceedingly, and the heat which is produced in the head, increases the tendency to a local determination of blood. And besides, if sickness supervene, the act of vomiting cannot but be most painful, if not absolutely dangerous.

The great uneasiness thus produced must soon lead to a little slackening of the bandages, and thus, in some instances which I have witnessed, while to appearance all seemed secure, hemorrhage was going on in secret, and blood was running down the throat in a full stream, or forming large clots in the mouth, which in turn served as a poultice to the bleeding vessel.

In the case to which I have already alluded, pressure *newly* applied always restrained the hemorrhage for a time; but the pain and annoyance which the patient suffered from the bandages induced an involuntary effort to obtain relief; and the bandages thus becoming loose, the blood flowed as much as ever, and this occurring frequently, much valuable time and strength were lost. Even in this case, I am inclined to think, that had an early gentle pressure been applied to, and steadily maintained on the precise point from which the hemorrhage proceeded, without the intervention of other means, the result might have been favourable.

But to conclude:—While I am so sanguine as to believe, that the compresses which I now recommend, are fitted to secure the kind and degree of pressure most desirable, I also anticipate a very great advantage from the freedom of the mouth,—a freedom which is most agreeable to the patient, and permits the surgeon at any time to inspect it. Thus, should hemorrhage be ascertained to be going on, an alteration in the plug, or in the position of the stopper, may be easily accomplished; and at the same time, other applications may be employed, and nourishment administered, without disturbing the apparatus in the least degree.*

POSTSCRIPT.

March 13, 1846.

Since this paper was read before the Society, I have had an opportunity of *testing* the compress for the upper jaw, and with perfect success. On the 11th of this month, (Wednesday,) one of my assistants

* Dr Peddie exhibited the two compresses to the Society, and explained the mode of applying them, making use of a skull for that purpose. He then stated that the instrument had been laid before the Royal Scottish Society of Arts some time since, when a very favourable report was returned, and the Honorary Silver Medal awarded to Dr Roberts. The instrument had been inspected by several eminent members of the profession, who had bestowed on the invention unqualified approbation. Since then it has been made much more light and convenient.

Dr Peddie concluded by stating, that within the last ten years, he had met with three cases of excessive hemorrhage after the extraction of teeth; that he believed the dentists who had operated had done so with great care; that he (Dr P.) in the after treatment of these cases, had experienced all the difficulties which Dr Roberts had described as attending the use of the ordinary local and general means; and was convinced that the possession of such a compress would have enabled him to restrain the hemorrhage early and easily.

removed a molar of the upper jaw from a morning patient, Thomas Russel, shoemaker, 116 Crosscauseway, about 30 years of age. The tooth came clean away, and the hemorrhage was nothing more than usual; but from that time to the 13th of the month (Friday,) it had not ceased, and when he presented himself, the bleeding was very active. He had naturally become alarmed.

I plugged the bleeding alveolus firmly with lint, and then placed on it the compress. The hemorrhage was at once checked; nor did he lose a drop of blood afterwards, while the compress was on, a period of four hours, and when he left, there appeared no further cause of alarm. During the time the compress was applied, the patient felt no pain whatever from the pressure, and but little inconvenience otherwise; while I had perfect freedom in examining the mouth from time to time.

He informed me, that he had had two teeth extracted at a former period, and that after each extraction he had lost a great deal of blood, the hemorrhage continuing several hours after each operation.

Saturday 14th. No further hemorrhage.

DESCRIPTION OF THE PLATE.

FIG. 1.

- A. Shield.
- B. Perpendicular bar.
- C. Transverse bar and stopper.
- D.D.D. Regulating screws.

FIG. 2.

- A. Bolster.
- B. Stopper.
- C. Regulating bar and screw.

FIG. 3.

Additional strap for counter pressure.

FIG. 4.

Stoppers.

FIGS. 5 and 6.

Method of application.

Fig. 5.



Fig. 1.

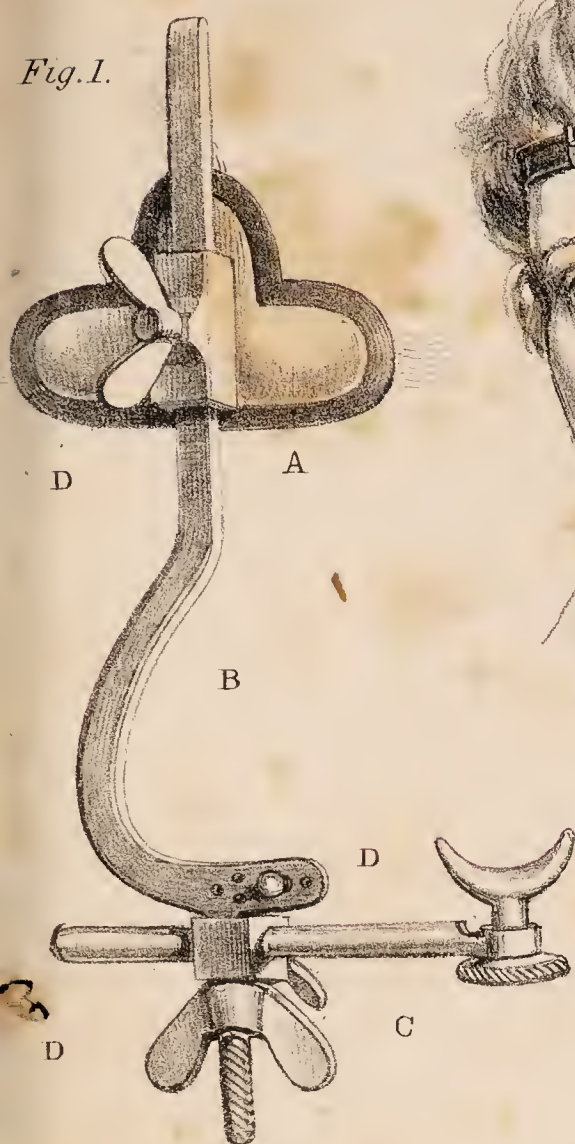


Fig. 3.



Fig. 6.

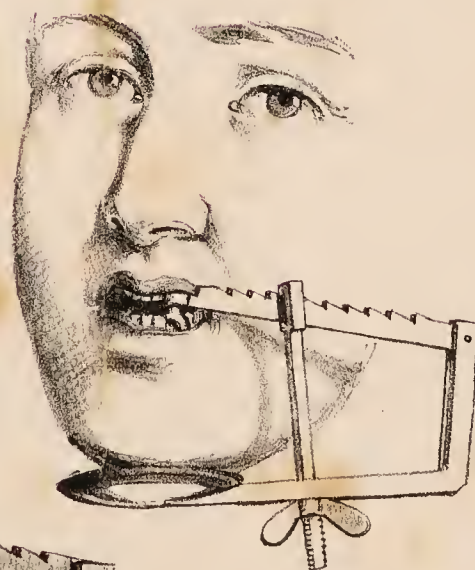
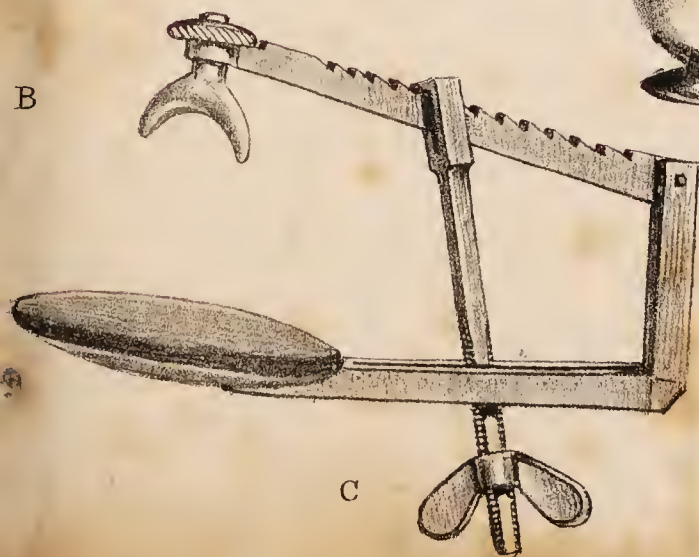


Fig. 4.



Fig. 2.



Jr Schenck, Lith

